

### **ABSTRACT OF THE DISCLOSURE**

A radio transmitter system designed using an FSK modulator with IQ up-mixers and sinewave coded digital-to-analog converters (DACs). The radio transmitter system may include a frequency shift keying (FSK) coding logic circuit coupled to the inputs of  
5 an IQ modulation and image reject up-mixer through a respective DAC and a respective low pass filter (LPF) for each the I and the Q channels. The FSK modulation scheme may employ sine and cosine signals for the I and Q channels, respectively, where the sine and cosine waves are directly coded into the DACs. The coded levels required by the DACs may be generated using current sources and may be Gray-coded. The output of  
10 the IQ modulation and image reject up-mixer may be connected to a power amplifier, which may be used to transmit the modulated RF signal via a loop antenna.